REMARKS

Claims 1-11 were pending in the present application and were rejected. Claims 6 and 8 are herein amended. Claims 1-5 and 7 are herein cancelled without prejudice.

Applicants' Response to Claim Rejections under 35 U.S.C. §102

Claims 6, 7, 9/6, 10/6 and 11/6 were rejected under 35 U.S.C. §102(b) as being anticipated by Ohira (U.S. Patent Application Publication No. 2002/0112711).

It is the position of the Office Action that Ohira discloses the embodiments as claimed. With respect to the subject matter of claim 6 regarding the period from the beginning of cranking to one full rotation, the Office Action regards this as functional language. Although the Office Action cites MPEP §2144, it appears that citation to MPEP §2114 was intended. The Office Action states that Ohira need only to be able to perform the claimed function in order to anticipate the claims. Specifically, the Office Action states that "[n]ot only is the system of Ohira able to perform as such, it will necessarily perform this functionality in its normal operation."

Ohira discloses a control method for an ignition system applied to an internal combustion engine with three cylinders. The ignition system has a rotor 10 which rotates with a crankshaft, and rotates one cycle synchronously with one cycle rotation of the crankshaft. The rotor 10 has a disk like rotor body 11 and teeth 20, 21, 22, 23, 24 and 25. The tooth 20 is longer in the rotating direction than the other teeth. The teeth 20 and 21 correspond to a first cylinder. The teeth 22 and 23 correspond to a second cylinder. The teeth 24 and 25 correspond to a third cylinder. The teeth

corresponding to each cylinder are located on both sides of a Top Dead Center (TDC) position. The teeth corresponding to each cylinder are spaced apart the same angle X degree, *e.g.* 5 degrees, from the TDC position. A spark plug 37 in a ignition device 35 sparks at fixed timing 5 degrees before and after the TDC position in response to every pulses of G2 signal by a controller circuit (step 114) in a period until the crankshaft is rotated once after cranking of the internal combustion engine is started.

Applicants herein amend claim 6 to require that the ignition control means instructs electric supply to an ignition coil in accordance with the reference pulse signal before the instruction of the spark discharge of the ignition plug in the period until the crank shaft is rotated once after the cranking of said internal combustion engine is started. Since this amendment incorporates subject matter of original dependent claim 7, it does not raise new issues requiring further search or consideration. Therefore, since a time period for the electric supply to the ignition coil can be properly set, spark discharge can be stably generated at the ignition plug by ignition energy charged in the ignition coil. See page 12, line 19 to page 15, line 16. If the time period for the electric supply is shorter than the proper period, ignition energy for spark discharge cannot be obtained fully. If the time period for the electric supply is longer than the proper period, overheat is caused by flowing overcurrent in the ignition coil. The Office Action states that Ohira inherently discloses the subject matter of claim 7. However, Ohira merely inherently discloses supplying electricity to the ignition coil, without regard for the reference pulse signal. Ohira does not disclose electric supply timing *in accordance with the reference pulse signal* to an ignition coil 36 in the ignition device 35, and is not able to control the electric supply timing in

this manner. In other words, in Ohira, the electric supply is "always on" once rotation of the crank shaft begins. As noted above, this will give rise to overheating due to overcurrent. Therefore, Applicants respectfully submit that Ohira does not disclose or suggest the embodiment of claim 6, or any claims dependent thereon. Favorable reconsideration is respectfully requested.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claims 1-5, 8, 9/8, 10/8 and 11/8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ono (U.S. Patent No. 6,032,649) in view of Ohira.

It is the position of the Office Action that Ono discloses the embodiments as claimed, with the exception of teaching the use of a tooth as a reference indicator, and placing the reference indicator tooth at a point immediately before the crank angle position corresponding to top dead center. The Office Action relies on Ohira to provide this teaching.

Applicants herein cancel claims 1-5. Thus, the rejection as it relates to these claims is moot. As to claims 8, 9/8, 10/8 and 11/8, Applicants respectfully submit that these claims are patentable at least due to their dependency on claim 6, which Applicants submit is patentable for at least the above reasons.

Additionally, Applicants herein amend claim 8 in order to correct the preamble of the claim. Previously, claim 8 recited "The crank angle detector". However, since claim 8 is dependent on claim 6, it should instead recite "The ignition timing controller". Please see the

amended claim 8. This amendment does not raise new issues requiring further search or consideration. Favorable reconsideration is respectfully requested.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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